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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,606	06/26/2001	Kazuyuki Shigeta	35.C15480	8670

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

11

DATE MAILED: 08/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/888,606

Applicant(s)

SHIGETA, KAZUYUKI

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is responsive to amendment filed on 07/07/2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-8, 13, 14, 20, 22-24, 29, 31, 33-36, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436).

Regarding claims 1, 5-7, 20, 22, 23, 33, 35, and 36, referring to Figs. 4, 6, 7, 9, and 11-13, Abe teaches an image display apparatus comprising an image signal generating unit (not shown) for generating an image signal (i.e., video signal input 21) (Fig. 4) and an image display element (i.e., TV display) for displaying an image on a screen according to the image signal inputted from the image signal generating unit, wherein when the screen is divided into a portion (i.e., main section) (Fig. 13A) in which the image is displayed and a dark display portion (i.e., blank zone) in which no image is displayed, non-dark display (i.e., teletext) (Figs. 13B-13D) is performed in the dark display portion (from col. 8, line 59 to col. 9, line 65, and from col. 10, line 66 to col. 11, line 51).

Abe differs from claims 1, 5-7, 20, 22, 23, 33, 35, and 36 in that he does not specifically teach non-dark display is performed in the dark display portion for a very short time period from a start time of display control until a start time of a process for terminating the display control. Abe teaches non-dark display (i.e., teletext) is performed in the dark display portion (i.e., blank

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zone) at the timing that determined by the blank zone location regulating section (302) (Fig. 14) (col. 11, lines 1-65). Therefore, it would have been obvious to obtain non-dark display is performed in the dark display portion for a very short time period from a start time of display control until a start time of a process for terminating the display control in order to avoid the image burn-in and prevent the visual interferences felt by viewers by long time period of displaying non-dark display is performed in the dark display portion.

Regarding claim 2, Abe further teaches the image display element includes a plurality of modulation target units that are two-dimensionally arranged (col. 7, lines 37-42).

Regarding claim 3, Abe further teaches the image display element performs binary display (from col. 6, line 19 to col. 7, line 3).

Regarding claims 8, 40, and 41, Abe further teaches the image is displayed by sequentially irradiating the image display element with light in various colors and switching images in the colors displayed by the image display element in synchronization with the light irradiation, and the non-dark display is performed in a display period assigned to a specific color (col. 7, lines 19-25 and from col. 10, line 47 to col. 11, line 13).

Regarding claims 13, 14, 29, and 31, Abe further teaches a difference in aspect ratio between the image to be displayed (4:3) and the screen (16:9) causes the division of the screen into the portion in which the image is displayed and the portion in which no image is displayed (Fig. 13) (col. 8, lines 59-67).

Regarding claims 24 and 34, Abe differs from claims 24 and 34 in that he does not specifically teach a total effective time of the bright display accounts for a proportion exceeding 0% but not exceeding 20% of an entire display period. Abe teaches time of the bright display

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accounts for a proportion is determined by the blank zone location regulating section (302) (Fig. 14) (col. 11, lines 1-65). However, it would have been obvious to obtain the proportion exceeding 0% but not exceeding 20% of an entire display period in order to avoid annoying users.

4. Claims 4, 12, 30, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (US Patent No. 5,734,436) in view of Sato et al. (US Patent No.: 5,534,940).

Regarding claim 4, Abe differs from claim 4 in that he does not specifically teach the non-dark display is an image reversal. However, referring to Figs. 4 and 8, Sato teaches non-dark display is an image reversal (col. 5, lines 33-52 and col. 7, lines 29-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the non-dark display is an image reversal as taught by Sato in the system of Abe in order to prevent deterioration on the display.

Regarding claims 12, 30, and 39, the combination of Abe and Sato teaches the image signal (f1, f2, and f3) transmitted from the image signal generating unit (not shown) to the image display element (50) is a pulse-width-modulated signal, and the image display element is driven by the pulse-width-modulated signal and displays a gradation image (col. 5, lines 21-31 of Sato) (Fig. 3).

5. Claims 9 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436) in view of Nakai et al. (U.S. Patent No. 5,990,971).

Regarding claims 9 and 32, Abe further teaches the image display element performs binary display (from col. 6, line 19 to col. 7, line 3).

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Abe differs from claims 9 and 32 in that he does not specifically teach the non-dark display is performed for a signal corresponding to a low gradation. However, referring to Figs. 5a-5c, Nakai teaches the non-dark display is performed for a signal corresponding to a low gradation (col. 6, lines 14-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the non-dark display is performed for a signal corresponding to a low gradation as taught by Nakai in the system of Abe in order to avoid annoying users.

6. Claims 15-17, 21, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436) in view of Preston (U.S. Patent No. 6,377,369).

Regarding claims 15, 17, and 26, Abe differs from claims 15, 17, and 26 in that he does not specifically teach the image display element is a spatial modulation element that uses a liquid crystal. However, Preston teaches the image display element is a spatial modulation element that uses a liquid crystal (from col. 3, line 56 to col. 4, line 11). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image display element is a spatial modulation element that uses a liquid crystal as taught by Preston in the system of Nakamura in order to provide a display panel, which is easy to view and prevent image burn-in on the display panel.

Regarding claims 16, 21, and 25, the combination of Abe and Preston teaches the image display element is a spatial modulation element of an MEMS type (col. 2, lines 42-59 and col. 4, lines 12-25).

7. Claims 18, 19, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436) in view of Shen et al. (U.S. Patent No. 6,486,900).

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Regarding claims 18, 19, 27, and 28, Abe differs from claims 18, 19, 27, and 28 in that he does not specifically teach the image display element is an LED. However, Shen teaches the image display element is an LED (col. 10, lines 23-37). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the image display element is an LED as taught by Shen in the system of Abe in order to provide display device with light-emitting efficiency.

8. Claims 10, 11, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe et al. (U.S. Patent No. 5,734,436) in view of Millward et al. (U.S. Patent No. 6,064,366).

Regarding claims 10, 11, 37, and 38, Abe differs from claims 10, 11, 37, and 38 in that he does not specifically teach the non-dark display is cyclically performed at a frequency of 50 Hz. However, Millward teaches data is cyclically performed at a frequency of 50 Hz (from col. 11, line 60 to col. 12, line 10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the non-dark display is cyclically performed at a frequency of 50 Hz as taught by Millward in the system of Abe in order to allow the flicker rarely recognized and avoid annoying the users.

9. Applicant's arguments with respect to claims 1-41 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**. The examiner can normally be reached on Mon-Fri from 9:00-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to: 703-872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

JNguyen
08/17/2004


REGINA LIANG
PRIMARY EXAMINER